



Fundamentals of Electrical Engineering I

Course Code: 25091
Credits: 3
Course Type: Theoretical
Prerequisites: Mathematics 2, Physics 2
Course Length: 51 hours

Outline:

1. Dynamic Systems
2. Definitions and Units
3. Experimental laws & Simple Circuits (Kirchhoff's law)
4. Circuit Rules
5. Nodal & Mesh Analysis
6. Superposition
7. Inductance and RL circuits
8. Capacitors and RC circuits
9. AC Circuit Power Analysis
10. Sinusoidal Steady-State Analysis
11. Effective Values and Power in AC Circuits
12. Introduction to Three-Phase Circuits
13. Introduction to Telecommunications, Control and Logic Circuits

References:

William H. Hayt & Jack E. Kemmerly, "Engineering Circuit Analysis – 7th Ed." McGraw-Hill Book Company Inc.